



Docket No. S-2446.01/DIV

**CERTIFICATE OF MAILING**

Date of Deposit: **February 5, 2008**

I hereby certify under 37 CFR 1.10 that this correspondence and enumerated documents is being deposited with the United States Postal Service as "First Class Mail Post Office to Addressee" with sufficient postage on the date indicated above and is addressed to the Commissioner for Patents, Mail Stop Election and Amendment, P.O. Box 1450, Alexandria, VA 22313-1450.

Name: Theresa R. Godfrey

Signature:

H. JAY SPIEGEL & ASSOCIATES

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re the application of:

Nobuji KISHIMOTO, et al.

Serial No.: 10/777,045

Group: 1621

Filed: February 13, 2004

Examiner: J. Y. Cho

FOR: LOWEER ALKANE OXIDATIVE DEHYDROGENATION CATALYSTS AND A  
PROCESS FOR PRODUCING OLEFINS

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**RESPONSE TO RESTRICTION**

Sir:

This is in response to the official action mailed November 5, 2007, to which a reply was due by December 5, 2007, and which is now due February 5, 2008, a two month extension of time being filed concurrently herewith.

Restriction to one of the following inventions has been required under 35 U.S.C. 121:

Group I, claims 9-15, 17 and 19, drawn to a process for producing unsaturated aldehydes and acids, using the

following catalyst:  $Mn_{\alpha}E^1_{\beta}E^2_{\gamma}O_x$ , classified in class 562, subclass various.

Group II, claims 16 and 21, drawn to a process for producing unsaturated aldehydes and acids, using the following catalyst:  $Mo_aBi_bFe_cA_dB_eC_fD_gO_x$ , classified in class 562, subclass various.

Group III, claims 18 and 20, drawn to a process for producing unsaturated aldehydes and acids using the following catalyst  $Mo_nV_iW_jE_kF_lG_mH_nO_x$ , classified in class 562, subclass various.

Applicants hereby elect Group I, claims 9-15, 17 and 19 drawn to a process for producing unsaturated aldehydes and acids while reserving the right to file one or more divisional applications covering the non-elected claims 16, 18, 20 and 21 at a later date.

This election is made without traverse and has no present effect on the inventorship of record in the present application.

This Response to restriction is accompanied by an amendment canceling the non-elected claims, amending the elected claims and presenting additional claims for examination herewith, and Applicants respectfully submit that the claims as amended and presented are all readable upon the elected invention as being drawn to a process for producing unsaturated aldehydes and acids from  $C_2$  to  $C_5$  alkene obtained by vapor phase oxidative dehydrogenation of  $C_2$  to  $C_5$  alkane in the presence of the catalyst  $Mn_{\alpha}E^1_{\beta}E^2_{\gamma}O_x$ , the claimed process being a two or,

optionally, a three step process involving a first oxidative dehydrogenation of C<sub>2</sub> to C<sub>5</sub> alkane in the presence of the catalyst Mn<sub>α</sub>E<sup>1</sup><sub>β</sub>E<sup>2</sup><sub>γ</sub>O<sub>x</sub> to yield C<sub>2</sub> to C<sub>5</sub> alkene, a second vapor phase oxidation of the obtained C<sub>2</sub> to C<sub>5</sub> alkene in the presence of a molybdenum-containing, multimetal, mixed oxide catalyst to yield unsaturated aldehydes and acids and, optionally, a third vapor phase oxidation of the obtained unsaturated aldehydes in the presence of a further molybdenum-containing, multimetal, mixed oxide catalyst to yield unsaturated acid.

Inasmuch as the invention as claimed is a multi-step process employing both the manganese containing catalyst and the molybdenum-containing catalysts, Applicants respectfully submit that all of the claims presented in the accompanying amendment read upon the elected invention and are therefore fully responsive to the present restriction requirement.

Inasmuch as the Restriction Requirement set forth a shortened statutory period for reply of one month or 30 days days, this response is accompanied by a two month extension of time to and including February 5, 2008.

Respectfully submitted,

H. JAY SPIEGEL & ASSOCIATES



Attorney for Applicants  
H. Jay Spiegel  
Reg. No. 30,722

H. JAY SPIEGEL & ASSOCIATES  
P.O. Box 11  
Mount Vernon, Virginia 22121  
703-619-0101 - Phone  
703-619-0110 - Facsimile  
jayspiegel@aol.com - e-mail